



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,489	08/24/2006	Yasuhiro Kuwahara	2006_1385A	1063
52349 7590 05/14/2010 WENDEROTH, LIND & PONACK L.L.P. 1030 15th Street, N.W. Suite 400 East Washington, DC 20005-1503				
EXAMINER				
GE, YUZHEN				
ART UNIT		PAPER NUMBER		
2624				
NOTIFICATION DATE		DELIVERY MODE		
05/14/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com

coa@wenderoth.com

**Office Action Summary****Application No.**

10/590,489

**Applicant(s)**

KUWAHARA ET AL.

**Examiner**

YUZHEN GE

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-14, 18-20 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-14, 18-20, and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Examiner's Remark***

Applicant's amendment, filed on 4/12/2010, has been received and entered into the file. The 101 rejections of claims 18-19 and the 112 2<sup>nd</sup> paragraph rejections of claims 1-14 and 20 have been overcome in view of applicant's amendments/remarks and are hereby withdrawn. Claims 1-3, 5-14, 18-20 and 24 are pending with claim 24 new.

Regarding applicant's argument that Torigoe fails to prevent inappropriate image processing by a user based on the ability of a user to select from a combination of regions within a color space without limitation, the examiner would like to point out that whether this ability of a user is prevented or not is not relevant to the limitations of claim 1. The cited limitations are: wherein the plurality of base coefficient groups do not change with respect to the image signal, and wherein the plurality of base coefficient groups have conversion characteristics such that a point in a color space according to the image signal after the memory color correction is in a predetermined region in the color space. The stored profiles of Torigoe correspond to the base coefficient groups of the claimed invention and these stored profiles do not change with respect to the image signal also (Figs. 2 and 3). Furthermore, the profiles of Torigoe also have conversion characteristics such that a point in a color space according to the image signal after the memory color correction is in a predetermined region in the color space (Fig. 3, the predetermined region is the region shown in Fig. 3, see also paragraph [0079], the triangle corresponds to a region in a color space). Therefore the teaching of Torigoe still reads on the claimed limitations.

Arguments on other claims depend on the arguments on the above limitations and therefore the 102/103 rejections have not been overcome.

### DETAILED ACTION

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3, 5-14, 18-20, and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1, 18, 19, 20 recite “wherein the plurality of base coefficient groups have conversion characteristics such that a **point in a color space** according to the image signal after the memory color correction is in a predetermined region **in the color space**” which was not described in the specification.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 5-14, 18-20 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Torigoe et al (US Patent Pub. 2003/0202194, cited by IDS).

Regarding claim 1 (interpreted), Torigoe et al teach an image processing device comprising:

a processing degree setting unit that sets a target degree of color processing with regard to at least two properties of a plurality of properties of an image signal, as a single target processing degree (Fig. 3, and Fig. 2, paragraph [0073], the color is of multi-dimension and therefore is related to at least two properties of an image signal, a set point in Fig. 3 such as 304 is or 305 are respectively set single target processing degree);

a processing coefficient group creation unit that creates a processing coefficient group for performing color processing of the single target processing degree, based on the single target processing degree set by the processing degree setting unit and a plurality of base coefficient groups that perform the color processing of the single target processing degree to differing degrees (base coefficient groups are the profiles corresponding to 301 and 302 and 303, Fig. 3, paragraphs [0073]-[0079]); and

a color processing execution unit that performs the color processing of the single target processing degree with respect to the image signal using the processing coefficient group created by the processing coefficient group creation unit (paragraph [0079], 203 and 204 of Fig. 2),

wherein the color processing of the single target processing degree is memory color correction (the color processing in Fig. 3 is type of memory color correction, paragraphs [0073]-[0079], Figs.11-14),

wherein the plurality of base coefficient groups do not change with respect to the image signal (Figs. 2 and 3, the stored profile do not change with respect to image signals), and

wherein the plurality of base coefficient groups have conversion characteristics such that a point in a color space according to the image signal after the memory color correction is in a

predetermined region in the color space (Fig. 3, the triangle is a predetermined region in a color space, paragraph [0079], the output color is within the triangle bounded by the three points).

Regarding claim 2, Torigoe et al teach the image processing device according to claim 1, wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating the plurality of base coefficient groups based on the single target processing degree (Fig. 3, paragraph [0073]-[0079]).

Regarding claim 5, Torigoe et al teach the image processing device according to claim 1, wherein the processing degree setting unit sets a correction trend of memory color correction as the single target processing degree; and wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating the plurality of base coefficient groups that performs memory color correction with different correction trends based on the target processing degree (Fig. 3, paragraphs [0073]-[0079], Figs.11-14).

Regarding claim 6, Torigoe et al teach the image processing device according to claim 1, wherein the processing degree setting unit sets a correction strength of memory color correction as the single target processing degree (Figs. 3, 11-14), and wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating a base coefficient group that performs memory color correction of a predetermined correction strength and a base coefficient group with which the memory color correction is not performed, based on the single target processing degree (paragraphs [0073]-[0079], Figs. 3 and 11-14)).

Regarding claim 7, Torigoe et al teach the image processing device according to claim 1, wherein the plurality of base coefficient groups are a plurality of base matrix data whose size corresponds to the number of the plurality of properties of the image signal (Fig. 3, paragraph [0079], the color have three dimensions), and wherein the color processing execution unit performs a matrix computation on the image signal using processing matrix data created by the processing coefficient group creation unit (paragraph [0076]-[0079] and Figs. 3, 7-8).

Regarding claim 8, Torigoe et al teach the image processing device according to claim 7, wherein the processing coefficient group creation unit creates the processing matrix data by interpolating or extrapolating the plurality of base matrix data based on the single target processing degree (Fig. 3, paragraphs [0076]-[0079]).

Regarding claim 9, Torigoe et al teach the image processing device according to claim 1, wherein the plurality of base coefficient groups are a plurality of base lookup tables that store values corresponding to the values of the image signal after a previous color correction has been performed (paragraph [0094]), corresponding to the values of the image signal; and wherein the color processing execution unit performs the memory color correction on the image signal using a processing lookup table created by the processing coefficient group creation unit (paragraphs [0094]-[0096], Figs. 7-8).

Regarding claim 10, Torigoe et al teach the image processing device according to claim 9, wherein the processing coefficient group creation unit creates the processing lookup table by interpolating or extrapolating the plurality of base lookup tables based on the single target processing degree (Fig. 3, paragraphs [0073]-[0079], [0094] and [0102], Fig. 4).

Regarding claim 11, Torigoe et al teach the image processing device according to claim 1, wherein the processing degree setting unit includes first processing degree setting unit for setting a first target processing degree, which is a target for a correction trend of the memory color correction (setting between 301 and 302 is setting a correction trend, Fig. 3); and a second processing degree setting unit that sets a second target processing degree, which is a target for a correction strength of the memory color correction (setting Dist in Fig. 3 is setting of a second degree), and wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating the plurality of base coefficient groups that performs memory color correction at different correction trends, based on the first processing degree and the second processing degree (paragraphs [0073]-[0079], Fig. 3).

Regarding claim 12, Torigoe et al teach the image processing device according to claim 1, wherein the processing coefficient group creation unit creates the processing coefficient group by changing only a specific section of the plurality of base coefficient groups (only the 301 and 302 are used to interpolate 304, Fig. 3, paragraphs [0073]-[0079]).



Regarding claim 13, Torigoe et al teach the image processing device according to claim 12, wherein the specific section of the plurality of base coefficient groups is a section that is determined by the processing degree setting unit (Fig. 3).

Regarding claim 14, Torigoe et al teach the image processing device according to claim 12, wherein the specific section of the plurality of base coefficient group is a section of the plurality of base coefficient groups that gives a transformation coefficient for a predetermined memory color (Fig. 3, and Figs. 11-13, paragraph [0079]).

Claims 18-20 are the corresponding method, computer-readable storage medium and circuit device claims of claim 1. Torigoe et al teach a method (abstract), a computer-readable medium (51006 or 51008 in Fig. 18) and a circuit device (Fig. 18). Thus Torigoe et al teach claims 18-20 as evidently explained in the above-cited passages.

Regarding claim 24, Torigoe et al teach the image processing device according to claim 1, wherein the processing degree setting unit sets a default value for the single target processing degree (303 in Fig. 3 is regarded as the default); a first boundary value, which is an upper limit value for the single target processing degree (301 in Fig. 3); and a secondary boundary value, which is a lower limit value for the single target processing degree (302 in Fig. 3), wherein the processing coefficient group creation unit creates a default processing coefficient group corresponding to the default value (Fig. 2, paragraphs [0070], [0079]); a first processing coefficient group corresponding to the first boundary value (Fig. 2, paragraphs [0070], [0079]);

and a second processing coefficient group corresponding to the second boundary value (Fig. 2, paragraphs [0070], [0079]),

wherein, in a case when the single target processing degree is a value in a range between the default value of the single target processing degree and the first boundary value, the processing coefficient group creation unit creates the processing coefficient group for performing the memory color correction by interpolating the default processing coefficient group and the first processing coefficient group based on the single target processing degree (paragraphs [0073]-[0079], Fig. 3), and

wherein, in the case when the single target processing degree is a value in a range between the default value of the target degree and the second boundary value, the processing coefficient group creation unit creates the processing coefficient group for performing the memory color correction by interpolating the default processing coefficient group and the second processing coefficient group based on the single target processing degree (paragraphs [0073]-[0079], Fig. 3).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Torigoe et al in view of Fujino (US Patent Pub. 20040227964).

Regarding claim 3, Torigoe et al teach the image processing device according to claim 1. Torigoe et al further teach the plurality of properties include a brightness of the image signal (paragraph [0079]). However they do not explicitly teach wherein the plurality of properties include a hue, and a vividness of the image signal. In the same field of endeavor, Fujino teaches a plurality of properties of an image include a hue and a vividness (Fig. 6(a), Figs. 22(a)-22(d), paragraphs [0067]-[0070]). It is well known in the art that a color space including hue, a vividness and a brightness can be used to represent colors of an image and therefore many prior arts that use such color space (office notice). It is desirable to choose a color space or properties depending on the need of the application. Therefore it would have been obvious to one of the ordinary skills in the art, at the time of invention, to use hue, vividness and a brightness to represent image signals.

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUZHEN GE whose telephone number is (571)272-7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuzhen Ge/  
Primary Examiner, Art Unit 2624